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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Lev Smolyar

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EXAMINER

ZHENG, EVA Y

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/966,753	Applicant(s) SMOLYAR ET AL.	
	Examiner Eva Yi Zheng	Art Unit 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being lack of antecedent basis.
3. Claims 1, 14 and 30 recites the limitation "said selected direction metric". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5, 9, 11, 13, 14, 18, 22, 24, 28 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Reitzig (US 3,836,970).

- a) Regarding to claim 1, Reitzig disclose a receiver comprising:

a direction metric determiner which generates direction metrics of each of a set of possible directions of joint movement of at least two fingers of a finger block (inherent as antenna array; Col 3, L5-33);

a metric selector which selects one of said direction metrics according to a predetermined criterion (Col 3, L28-33); and

a finger adjuster (inherent as switching) which moves the fingers of said finger block in the directions indicated by said selected direction metric (Col 3, L34-37; Fig. 6).

b) Regarding to claim 14, Reitzig disclose

an article comprising a storage medium having stored thereon instructions, that, when executed by a computing platform, cause the computing platform to generate direction metrics of each of a set of possible directions of joint movement of at least two fingers of a finger block, select one of said direction metrics according to a predetermined criterion, and to move the fingers of said finger block in the directions indicated by said selected direction metric (Col 3, L5-37; Fig. 6).

c) Regarding to claim 30, Reitzig disclose a method comprising:

forming a finger block of at least two fingers (inherent as antenna array; as shown in Fig. 1); and

jointly tracking the fingers of said finger block by (as shown in Fig. 1):

generating direction metrics of each of a set of possible directions of joint movement of the fingers of said finger block (Col 3, L5-33);

selecting one of said direction metrics according to a predetermined criterion (Col 3, L28-33); and

moving the fingers of said finger block in the directions indicated by said selected direction metric (Col 3, L34-37; Fig. 6).

d) Regarding to claims 5 and 18, Reitzig disclose wherein said finger block is formed of two fingers (inherent as antenna array; as shown in Fig. 1).

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- e) Regarding to claims 9 and 22, Reitzig disclose wherein said finger block is formed of two closely spaced fingers (inherent as antenna array; as shown in Fig. 1).
- f) Regarding to claims 11 and 24, Reitzig disclose finger block is formed of three fingers (antenna array; as shown in Fig. 1).
- g) Regarding to claims 13 and 28, Reitzig disclose direction metric are based on power estimation (inherent as gain; Col 5, L44-Col 6, L15).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 3, 6-8, 15, 16 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reitzig (US 3,836,970).

a) Regarding to claims 2, 3, 15, and 16, Reitzig disclose all the subject matters above except for the specific teaching of the selected direction metric is the maximal direction metric, such limitation are merely a matter of design choice and would have been obvious in the system of Reitzig. Reitzig teaches selects optimum position with comparison of a threshold value (Col 3, L27-33). The limitations in claims 2, 3, 15, and 16 do not define a patentably distinct invention over that in Reitzig since both the invention as a whole and Reitzig are directed to select most desirable choice. The method of how to select or choose the desirable result is inconsequential for the

invention as a whole and present no new or unexpected results. Therefore, to have maximal direction metric in Reitzig would have been a matter of obvious design choice to one of ordinary skill in the art.

b) Regarding to claims 6-8 and 19-21, Reitzig disclose all the subject matters above except for the specific teaching of five, six or nine different directions of joint movement, such limitation are merely a matter of design choice and would have been obvious in the system of Reitzig. Reitzig teaches antenna array having four radiator elements which can be controlled such that the array radiates beams in four different directions (Col 5, L28-31). The limitations in claims 6-8 and 19-21 do not define a patentably distinct invention over that in Reitzig since both the invention as a whole and Reitzig are directed to optimum selection from a set of different directions. The number of directions is inconsequential for the invention as a whole and present no new or unexpected results, as long as the most desirable is selected. Therefore, to have five, six or nine different directions in Reitzig would have been a matter of obvious design choice to one of ordinary skill in the art.

8. Claims 4, 10, 12, 17, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reitzig (US 3,836,970) in view of La Rosa et al. (US 6,078,611).

a) Regarding claims 4 and 17, Reitzig disclose all the subject matters above except for the specific teaching of a redefinder which redefines finger blocks.

However, La Rosa, in the filed of endeavor, disclose a finger deassign (324 in Fig. 3) in a joint tracking system. Therefore, it is obvious to one of ordinary skill in art at

the time of invention to implement a finger deassign in the antenna array system of Reitzig. By doing so, provide better antenna array control and more accurate satellite signal detection in a navigation system.

b) Regarding to claims 10,12, 23 and 25, Reitzig disclose all the subject matters above except for the specific teaching of finger are set $7/8$ chip apart or no smaller than $7/8$ chip apart.

However, La Rosa, in the filed of endeavor, disclose $1/8$ chip are used and other suitable fractions are usable as well (Col 7, L59-61). Therefore, it is obvious to one of ordinary skill in art to implement desirable chip rate of La Rosa in the antenna array system of Reitzig. By doing so, provide better antenna array control and more accurate satellite signal detection in a navigation system.

Allowable Subject Matter

9. Claims 26 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Y Zheng whose telephone number is 571-272-3049. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eva Yi Zheng
Examiner
Art Unit 2634

February 15, 2006


CHIEH M. FAN
SUPERVISORY PATENT EXAMINER